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EXAMINER	
WALSH, RYAN D	

ART UNIT	PAPER NUMBER
2852	

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/764,477	SATO, SHOUGO	
	Examiner	Art Unit	
	Ryan D. Walsh	2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11-17-2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments, filed November 17,2005, with respect to the rejection(s) of claim(s) 9, 10, 15, and 17 under 35 U.S.C. 102(b), claim(s) 1-3, 8, and 16 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Demizu et al. (US Pat. # 4,930,438) claims 1-3, 8-10, and 15-17 are now rejected under 35 U.S.C. 103(a) in view of Demizu et al.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 9, 10, 15, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamatsu et al. (US Pat. # 6,064,847) in view of Demizu et al. (US Pat. # 4,930,438).

Regarding Claim 9, Iwamatsu et al. teach, "A developing device (Title) comprising: a developer-carrying member (41) that conveys a charged nonmagnetic single-component developer (Col. 6, Ln. 65-67) to a surface of an image-carrying member; a supplying member (42) that supplies a developer to the developer-carrying member; and a removing member (44) that removes a nonmagnetic single-component

developer remaining on a peripheral surface of the developer-carrying member that was not supplied to the image-carrying member, wherein the removing member is positioned upstream (see Fig. 1, ref. # 44) of the supplying member in the rotational direction of the developer-carrying member; the removing member rotates (Fig. 1, and Col. 11, Ln. 59-67) such that a peripheral surface of the removing member opposing the developer-carrying member moves in the same direction as the peripheral surface of the developer-carrying member opposing the removing member while in contact with the peripheral surface of the developer-carrying member. " Iwamatsu et al. do not teach, "a removing device that removes the charged nonmagnetic single-component developer from the removing member, the removing device being arranged to contact the removing member." However, a removing device that removes the charged nonmagnetic single-component developer from the removing member, the removing device being arranged to contact the removing member is routine in the art as shown by Demizu et al. (Fig. 10, ref. # 20').

The ordinary artisan would have been motivated to modify Iwamatsu et al. invention in a manner described above for at least the purpose of providing a more effective cleaning method.

Regarding Claim 10, Iwamatsu et al. teach, "wherein the removing member is formed of a conductive material (Col. 12, Ln. 9-12), and a bias (Col. 12, Ln. 5-7) is applied to between the removing member and the developer-carrying member so as to attract the electrically-charged nonmagnetic single-component developer from the developer-carrying member to the removing member. "

Regarding Claim 15, Iwamatsu et al. teach, "further comprising a thickness-regulating member (Fig. 1, ref. # 43) that is disposed downstream of the supplying member in the rotational direction of the developer-carrying member, the thickness-regulating member regulating a thickness of a developer carried on the developer-carrying member. "

Regarding Claim 17, Iwamatsu et al. teach, "An image forming apparatus, comprising: an image-carrying member (Fig. 1, ref. #1); a developer-carrying member (Fig. 1, ref. #41) that conveys a charged nonmagnetic single-component developer to a surface of the image-carrying member; a supplying member (Fig. 1, ref. #42), formed of a conductive material (Col. 7, Ln. 61-62 and Col. 9, Ln. 48-51), that supplies a developer to the developer-carrying member; a removing member (Fig. 1, ref. #44, and Col. 12, Ln. 9-12), formed of a conductive material, that removes a nonmagnetic single-component developer remaining on a peripheral surface of the developer-carrying member that was not supplied to the image-carrying member: and a power source (ref. #11, ref. #12, ref. #13 and ref. #14) wherein the removing member is positioned upstream (see Fig. 1, ref. #44) of the supplying member in the rotational direction of the developer-carrying member; the removing member rotates (Fig. 1, and Col. 11, Ln. 59-67) such that a peripheral surface of the removing member opposing the developer-carrying member moves in the same direction as the peripheral surface of the developer-carrying member opposing the removing member while in contact with the peripheral surface of the developer-carrying member; the power source applies a bias to between the removing member and the developer-carrying member (Col. 12, Ln. 1-8)

so as to attract the electrically-charged nonmagnetic single-component developer from the developer-carrying member to the removing member; and the power source applies a bias to between the supplying member and the developer-carrying member (Col. 8, Ln. 1-5) so as to attract the electrically-charged nonmagnetic single-component developer from the supplying member to the developer-carrying member. " " Iwamatsu et al. do not teach, "a removing device that removes the charged nonmagnetic single-component developer from the removing member, the removing device being arranged to contact the removing member." However, a removing device that removes the charged nonmagnetic single-component developer from the removing member, the removing device being arranged to contact the removing member is routine in the art as shown by Demizu et al. (Fig. 10, ref. # 20').

The ordinary artisan would have been motivated to modify Iwamatsu et al. invention in a manner described above for at least the purpose of providing a more effective cleaning method.

Regarding claim 19, Iwamatsu et al. do not teach, "wherein the removing device is a blade that scrapes off the charged nonmagnetic single-component developer." However, Demizu et al. teaches, "wherein the removing device is a blade that scrapes off the charged nonmagnetic single-component developer (see Fig. 10, ref. # 20')." It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Iwamatsu et al. invention to include the removing device is a blade ~~that~~ which scrapes off the charged nonmagnetic single-component developer.

The ordinary artisan would have been motivated to modify Iwamatsu et al. and invention in a manner described above for at least the purpose of maintaining the scrape off performance at a predetermined level.

Claims 1-3, 8, 16, 18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamatsu et al. (US Pat. # 6,064,847) in view of Wada et al. (US Pat. # 5,495,322) and in further view of Demizu et al. (US Pat. # 4,930,438).

Regarding Claim 1, Iwamatsu et al. teach, "A developing device (Title) comprising: a developer-carrying member (41) that conveys a charged nonmagnetic single-component (Col. 6, Ln. 65-67) developer to a surface of an image-carrying member; a supplying member (42) that supplies a developer to the developer-carrying member; and a removing member (44) that removes a charged nonmagnetic single-component developer remaining on a peripheral surface of the developer-carrying member that was not supplied to the image-carrying member." Iwamatsu et al. does not teach, "wherein the developer-carrying member rotates in a rotational direction such that the peripheral surface of the developer-carrying member opposing the supplying member moves vertically downward; and the removing member is positioned vertically above the supplying member and upstream of the supplying member in the rotational direction of the developer-carrying member." Iwamatsu et al. also does not teach, "a removing device that removes the charged nonmagnetic single-component developer from the removing member, the removing device being arranged to contact the removing member." However, wherein the developer-carrying member rotates in a rotational direction such that the peripheral surface of the developer-carrying member

opposing the supplying member moves vertically downward; and the removing member is positioned vertically above the supplying member and upstream of the supplying member in the rotational direction of the developer-carrying member is routine in the art as shown by Wada et al. (see Fig. 1, ref. # 2,3 and 10), and a removing device that removes the charged nonmagnetic single-component developer from the removing member, the removing device being arranged to contact the removing member is also routine in the art as shown by Demizu et al. (Fig. 10, ref. # 20'). It would have been obvious to one of ordinary skill to modify Iwamatsu et al. invention by having the developer-carrying member rotate in a rotational direction such that the peripheral surface of the developer-carrying member opposing the supplying member moves vertically downward; and the removing member is positioned vertically above the supplying member and upstream of the supplying member in the rotational direction of the developer-carrying member. It also would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Iwamatsu et al. invention to include a removing device that removes the charged nonmagnetic single-component developer from the removing member, the removing device being arranged to contact the removing member.

The ordinary artisan would have been motivated to modify Iwamatsu et al. invention in a manner described above for at least the purpose of providing a more effective cleaning method.

Regarding Claim 2, Iwamatsu et al. teach, "wherein the removing member rotates such that a peripheral surface of the removing member opposing the developer-

carrying member moves in the same direction as the peripheral surface of the developer-carrying member opposing the removing member while in contact with the peripheral surface of the developer-carrying member (see Fig. 1, and Col. 11, Ln. 59-67)."

Regarding Claim 3, Iwamatsu et al. teach, "wherein a bias (Col. 12, Ln. 1-8) is applied to between the removing member and the developer-carrying member so as to attract the charged nonmagnetic single-component developer from the peripheral surface of the developer-carrying member to the removing member, wherein the removing member is formed of a conductive material (Col. 7, Ln. 61-62 and Col. 9, Ln. 48-51)."

Regarding Claim 8, Iwamatsu et al. teach, "further comprising a thickness-regulating member that is disposed downstream of the supplying member in the rotational direction of the developer-carrying member (Fig. 1, ref. #43), the thickness-regulating member regulates a thickness of the charged-nonmagnetic single-component developer carried on the developer-carrying member."

Regarding Claim 16, Iwamatsu et al. teach, "An image forming apparatus, comprising: an image-carrying member (1); a developer-carrying member (41) that conveys a charged nonmagnetic single-component developer to a surface of the image-carrying member, a supplying member (42), formed of a conductive material (Col. 7, Ln. 61-62 and Col. 9, Ln. 48-51), that supplies a developer to the developer-carrying member; a removing member (44), formed of a conductive material (Col. 12, Ln. 9-12), that removes a charged nonmagnetic single-component developer remaining on a

peripheral surface of the developer-carrying member that was not supplied to the image-carrying member; and a power source (ref. #11, ref. #12, ref. #13 and ref. #14); a bias is applied by the power source to between the removing member and the developer-carrying member (Col. 12, Ln. 1-8) so as to attract the charged nonmagnetic single-component developer from the peripheral surface of the developer-carrying member to the removing member, and a bias is applied by the power source to between the supplying member and the developer-carrying member (Col. 8, Ln. 1-5) so as to attract the charged nonmagnetic single-component developer from the supplying member to the developer-carrying member. " Iwamatsu et al. does not teach, "wherein the developer-carrying member rotates in a rotational direction such that the peripheral surface of the developer-carrying member opposing the supplying member moves vertically downward; the removing member is positioned vertically above the supplying member and upstream of the supplying member in the rotational direction of the developer-carrying member." Iwamatsu et al. also does not teach, "a removing device that removes the charged nonmagnetic single-component developer from the removing member, the removing device being arranged to contact the removing member." However, wherein the developer-carrying member rotates in a rotational direction such that the peripheral surface of the developer-carrying member opposing the supplying member moves vertically downward; and the removing member is positioned vertically above the supplying member and upstream of the supplying member in the rotational direction of the developer-carrying member is routine in the art as shown by Wada et al. (see Fig. 1, ref. # 2,3 and 10), and a removing device that removes the charged

nonmagnetic single-component developer from the removing member, the removing device being arranged to contact the removing member is also routine in the art as shown by Demizu et al. (Fig. 10, ref. # 20'). It would have been obvious to one of ordinary skill to modify Iwamatsu et al's invention by having the developer-carrying member rotate in a rotational direction such that the peripheral surface of the developer-carrying member opposing the supplying member moves vertically downward; and the removing member is positioned vertically above the supplying member and upstream of the supplying member in the rotational direction of the developer-carrying member. It also would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Iwamatsu et al. invention to include a removing device that removes the charged nonmagnetic single-component developer from the removing member, the removing device being arranged to contact the removing member.

The ordinary artisan would have been motivated to modify Iwamatsu et al. invention in a manner described above for at least the purpose of providing a more effective cleaning method.

Regarding claims 18 and 20, the combination of Iwamatsu et al. and Wada et al. do not teach, "wherein the removing device is a blade that scrapes off the charged nonmagnetic single-component developer." However, Demizu et al. teaches, "wherein the removing device is a blade that scrapes off the charged nonmagnetic single-component developer (see Fig. 10, ref. # 20')." It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of

Iwamatsu et al. and Wada et al. inventions to include the removing device is a blade that scrapes off the charged nonmagnetic single-component developer.

The ordinary artisan would have been motivated to modify the combination of Iwamatsu et al. and Wada et al. inventions in a manner described above for at least the purpose of maintaining the scrape off performance at a predetermined level.

Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Iwamatsu et al. (US Pat. # 6,064,847), Wada et al. (US Pat. # 5,495,322), and Demizu et al. (US Pat. # 4,930,438) as applied to claims 1-3, 8 and 16 above, and further in view of Iwata (US Pat. # 5,809,386).

Regarding Claim 4, the combination of Iwamatsu et al., Wada et al., and Demizu et al., fails to teach, "a velocity ratio of the peripheral surfaces of the removing member and the developer-carrying member is 0.7-1.3." However, Iwata shows a velocity ratio of the peripheral surfaces of the removing member (Col. 7, Ln. 5-6) and the developer-carrying member (2) is 0.7-1.3 (see Col. 6, Ln. 40-43). It would have been obvious at the time the invention was made to modify the combination of Iwamatsu et al., Wada et al., and Demizu et al. by having the velocity ratio of the removing member and the developer-carrying member between 0.7 and 1.3.

The ordinary artisan would have been motivated to modify the combination of Iwamatsu et al., Wada et al., and Demizu et al., in a manner described above for at least the purpose of maintaining sensitive toner control.

Regarding Claim 5, Iwamatsu et al teach, "the supplying member rotates such that a peripheral surface of the supplying member opposing the developer-carrying

member moves in the same direction as the peripheral surface of the developer-carrying member opposing the supplying member (Fig. 1, ref. # 41 and 42)" but does not teach, "a velocity ratio of the peripheral surfaces of the supplying member and the developer-carrying member is 0.7-1.3." However, Iwata shows a velocity ratio of the peripheral surfaces of the supplying member and the developer-carrying member is 0.7-1.3 (see Col. 6, Ln. 34, 50-53). It would have been obvious at the time the invention was made to modify the combination of Iwamatsu et al., Wada et al., and Demizu et al. by having the velocity ratio of the supplying member and the developer-carrying member between 0.7 and 1.3.

The ordinary artisan would have been motivated to modify the combination of Iwamatsu et al., Wada et al., and Demizu et al., in a manner described above for at least the purpose of maintaining sensitive toner control between the supplying member and the developer-carrying member.

Regarding Claim 6, Iwamatsu et al teachs, "wherein the supplying member is formed of a conductive material (Col.7, Ln. 61-62 and Col. 9, Ln. 48-51), and the supplying member and the developer-carrying member have the same potential (Col.14, Ln 26-27 and 34-35)."

Regarding Claim 7, Iwamatsu et al teach, "The developing device according to claim 1, wherein: the supplying member rotates such that a peripheral surface of the supplying member opposing the developer-carrying member moves in the same direction as the peripheral surface of the developer-carrying member opposing the supplying member (Fig. 1, ref. # 41 and 42); the supplying member is formed of a

conductive material (Col.7, Ln. 61-62 and Col. 9, Ln. 48-51); the supplying member and the developer-carrying member have the same potential (Col.14, Ln 26-27 and 34-35); and a bias is applied to between the supplying member and the developer-carrying member so as to attract the charged nonmagnetic single-component developer from the supplying member to the developer-carrying member (Col. 8, Ln. 1-5)." Iwamatsu et al. does not teach, "a velocity ratio of the peripheral surfaces of the supplying member and the developer-carrying member is 0.7-1.3." However, Iwata shows a velocity ratio of the peripheral surfaces of the supplying member and the developer-carrying member is 0.7-1.3 (see Col. 6, Ln. 34, 50-53). It would have been obvious at the time the invention was made to modify the combination of Iwamatsu et al., Wada et al., and Demizu et al. by having the velocity ratio of the supplying member and the developer-carrying member between 0.7 and 1.3.

The ordinary artisan would have been motivated to modify the combination of Iwamatsu et al., Wada et al., and Demizu et al., in a manner described above for at least the purpose of maintaining sensitive toner control between the supplying member and the developer-carrying member.

Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Iwamatsu et al. (US Pat. # 6,064,847) in view of Demizu et al. (US Pat. # 4,930,438) and in further view of Iwata (US Pat. # 5,809,386).

Regarding Claim 11, the combination of Iwamatsu et al. and Demizu et al. fail to teach, "wherein a velocity ratio of the peripheral surfaces of the removing member and the developer-carrying member is 0.7-1.3." However, Iwata shows a velocity ratio of the

peripheral surfaces of the removing member (Col. 7, Ln. 5-6) and the developer-carrying member (2) is 0.7-1.3 (see Col. 6, Ln. 40-43). It would have been obvious at the time the invention was made to modify the combination of Iwamatsu et al. and Demizu et al. by having the velocity ratio of the removing member and the developer-carrying member between 0.7 and 1.3.

The ordinary artisan would have been motivated to modify the combination of Iwamatsu et al. and Demizu et al. in a manner described above for at least the purpose of maintaining sensitive toner control.

Regarding Claim 12, Iwamatsu et al. teach, "wherein the supplying member rotates such that a peripheral surface of the supplying member opposing the developer-carrying member moves in the same direction as the peripheral surface of the developer-carrying member opposing the supplying member (see Fig. 1, ref. # 41-42), but fails to teach "a velocity ratio of the peripheral surfaces of the supplying member and the developer-carrying member is 0.7-1.3." However, Iwata shows a velocity ratio of the peripheral surfaces of the supplying member and the developer-carrying member is 0.7-1.3 (see Col. 6,Ln. 34, 50-53). It would have been obvious at the time the invention was made to modify the combination of Iwamatsu et al. and Demizu et al. by having the velocity ratio of the supplying member and the developer-carrying member between 0.7 and 1.3.

The ordinary artisan would have been motivated to modify the combination of Iwamatsu et al. and Demizu et al. in a manner described above for at least the purpose of maintaining sensitive toner control.

Regarding Claim 13, Iwamatsu et al teach, "wherein the supplying member is formed of a conductive material (Col.9, Ln. 48-51), and the supplying member and the developer-carrying member have the same potential (Col. 14, Ln. 26-27, 34-35)."

Regarding Claim 14, Iwamatsu et al teach, "The developing device according to claim 9, wherein: the supplying member rotates such that a peripheral surface of the supplying member opposing the developer-carrying member moves in the same direction as the peripheral surface of the developer-carrying member opposing the supplying member (Fig.1, ref. # 41-42), the supplying member is formed of a conductive material (Col.7, Ln. 61-62 and Col. 9, Ln. 48-51): the supplying member and the developer-carrying member have the same potential (Col.14, Ln 26-27 and 34-35); and a bias is applied to between the supplying member and the developer-carrying member so as to attract the electrically-charged nonmagnetic single-component developer from the supplying member to the developer-carrying member (Col. 8, Ln. 1-5)." Iwamatsu et al. does not teach, "a velocity ratio of the peripheral surfaces of the supplying member and the developer-carrying member is 0.7 -1.3." However, Iwata shows a velocity ratio of the peripheral surfaces of the supplying member and the developer-carrying member is 0.7-1.3 (see Col. 6,Ln. 34, 50-53). It would have been obvious at the time the invention was made to modify the combination of Iwamatsu et al. and Demizu et al. by having the velocity ratio of the supplying member and the developer-carrying member between 0.7 and 1.3.

The ordinary artisan would have been motivated to modify the combination of Iwamatsu et al. and Demizu et al. in a manner described above for at least the purpose of maintaining sensitive toner control.

Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamatsu et al. (US Pat. # 6,064,847) in view of Wada et al. (US Pat. # 5,495,322).

Regarding claim 21, Iwamatsu et al. teach, "a developer-carrying member (41) that conveys a charged nonmagnetic single-component developer (Col. 6, Ln. 65-67) to a surface of an image-carrying member; a supplying member (42) that supplies a developer to the developer-carrying member; and a removing member (44) that removes a nonmagnetic single-component developer remaining on a peripheral surface of the developer-carrying member that was not supplied to the image-carrying member; and a thickness-regulating member (43) that regulates a developer into a uniform thin layer; wherein the supplying roller (Fig. 1, ref. # 42) is positioned upstream of the thickness-regulating member (43) in the rotational direction of the developer-carrying member." Iwamatsu et al. do not teach, "the developer-carrying member rotates in a rotational direction such that the peripheral surface of the developer-carrying member opposing the supplying member moves vertically downward; the removing member is positioned vertically above the supplying member, the removing member is positioned upstream of the supplying member and upstream of the thickness-regulating member in the rotational direction of the developer-carrying member; and the thickness-regulating member is positioned below the developer-carrying member." However, Wada et al. teach, "the developer-carrying member rotates in a rotational direction such that the

peripheral surface of the developer-carrying member opposing the supplying member moves vertically downward and the removing member is positioned vertically above the supplying member, the removing member is positioned upstream of the supplying member and upstream of the thickness-regulating member in the rotational direction of the developer-carrying member (see Fig. 1, ref. # 2, 3, 10); and the thickness-regulating member is positioned below the developer-carrying member (ref. # 11)." It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Iwamatsu et al. invention to include the developer-carrying member rotates in a rotational direction such that the peripheral surface of the developer-carrying member opposing the supplying member moves vertically downward; the removing member is positioned vertically above the supplying member, the removing member is positioned upstream of the supplying member and upstream of the thickness-regulating member in the rotational direction of the developer-carrying member; and the thickness-regulating member is positioned below the developer-carrying member.

The ordinary artisan would have been motivated to modify Iwamatsu et al. invention in a manner described above for at least the purpose of providing a more effective cleaning method.

Regarding claim 22, Iwamatsu et al. teach, "a developer-carrying member (41) that conveys a charged nonmagnetic single-component developer (Col. 6, Ln. 65-67) to a surface of an image-carrying member; a supplying member (42) that supplies a developer to the developer-carrying member; and a removing member (44) that removes a nonmagnetic single-component developer remaining on a peripheral surface

of the developer-carrying member that was not supplied to the image-carrying member; and a thickness-regulating member (43) that regulates a developer into a uniform thin layer; wherein the supplying roller (Fig. 1, ref. # 42) is positioned upstream of the thickness-regulating member (43) in the rotational direction of the developer-carrying member, the removing member rotates (Fig. 1, and Col. 11, Ln. 59-67) such that a peripheral surface of the removing member opposing the developer-carrying member moves in the same direction as the peripheral surface of the developer-carrying member opposing the removing member while in contact with the peripheral surface of the developer-carrying member." Iwamatsu et al. do not teach, "the removing member is positioned upstream of the supplying member and upstream of the thickness-regulating member in the rotational direction of the developer-carrying member; and the thickness-regulating member is positioned below the developer-carrying member." However, Wada et al. teach, "the removing member is positioned upstream of the supplying member and upstream of the thickness-regulating member in the rotational direction of the developer-carrying member (see Fig. 1, ref. # 2, 3, 10); and the thickness-regulating member is positioned below the developer-carrying member (ref. # 11)." It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Iwamatsu et al. invention to include the removing member is positioned upstream of the supplying member and upstream of the thickness-regulating member in the rotational direction of the developer-carrying member; and the thickness-regulating member is positioned below the developer-carrying member.

The ordinary artisan would have been motivated to modify Iwamatsu et al. invention in a manner described above for at least the purpose of providing a more effective cleaning method.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hirose et al. (US Pat. # 5,057,871), Takaya et al. (US Pat. # 5,223,668), Kamaji et al. (US Pat. # 5,412,458), Fukuda et al. (US Pat. # 5,701,563), and Furukawa et al. (US Pub. 20020012552), all cited for their similar structure to the present application.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan D. Walsh whose telephone number is 571-272-2726. The examiner can normally be reached on M-F 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on 571-272-2136. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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